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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
YANCHUS III, PAUL B	

ART UNIT	PAPER NUMBER
2116	

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/919,134	NAKAGAWA, O. SAM	
	Examiner	Art Unit	
	Paul B Yanchus	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 13 is objected to because of the following informalities: Claim 13 recites the limitation "the second server" in line 2. There is insufficient antecedent basis for this limitation in the claim. It appears that claim 13 should depend from claim 12, which recites a "second server." For purposes of examination, the examiner has assumed that claim 13 depends from claim 12.. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 recites the limitation "the priority list" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim in that a "priority list" has not been previously recited in claim 12 or claim 1, from which it depends.

Claim 14 recites the limitation "the priority list" in lines 9 and 10. There is insufficient antecedent basis for this limitation in the claim in that a "priority list" has not been previously recited in claim 14.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 6-15 and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chrabaszcz, US Patent no. 6,134,673, in view of, Langer et al., US Patent no. 5,381,554 [Langer].

Regarding claim 1, Chrabaszcz discloses a method for server cluster power management, wherein fault tolerant uninterruptible power supply systems are used for preventing network down time during AC power failure. Chrabaszcz does not address the details of the method, but states that such systems are well known [column 2, lines 25-31]. Langer teaches a known method for computer power management, comprising the steps of:

grouping activities within a network of computers into predefined sets [priorities of loads, column 4, lines 61-63];

assigning a priority level to each set [column 4, lines 61-63];

identifying a first computer hosting a first set of lower-priority activities within the network [column 5, lines 35-38];

receiving a power interruption signal [column 5, lines 26-29]; and

diverting power reserves of the first computer to another computer in the network, in response to the power interruption signal [column 5, lines 47-51].

It would have been obvious to one of ordinary skill in the art to use the Langer method as the method disclosed by Chrabaszcz as it is a known method capable of fulfilling Chrabaszcz's goal of achieving network fault tolerance in the event of AC power failure.

Regarding claim 6, Langer teaches receiving the power interruption signal, in response to a power failure [column 5, lines 24-27].

Regarding claim 7, Langer and Chrabaszcz do not explicitly teach receiving a power interruption signal in response to a network administrator command. However, the Examiner takes official notice that it is well known in the art to receive a power interruption signal in response to a network administrator command. Accordingly, it would have been obvious to one of ordinary skill in the art to enable receiving a power interruption signal in response to a network administrator command in order to provide a manual indication of AC power failure in the event that AC power failure detection circuitry is malfunctioning.

Regarding claim 8, Langer and Chrabaszcz do not explicitly teach diverting the first set of lower-priority activities to another server in the cluster. However, since the server which performed the first set of lower-priority activities would be powered down, it would have been obvious to one of ordinary skill in the art to divert the first set of lower-priority activities to another server in the cluster if first set of lower-priority activities are still required to be functioning.

Regarding claim 9, Langer teaches identifying a second server hosting a second set of lower-priority activities within the cluster; and wherein the diverting step includes the step of, diverting power reserves of the second server to another server in the cluster, in response to the power interruption signal [column 5, line 40 – column 6, line 10].

Regarding claim 10, Langer teaches diverting battery power reserves of the first server to another server in the cluster [column 5, lines 47-52].

Regarding claim 11, Langer teaches keeping servers with the highest priorities operational for the longest amount of time [column 4, lines 59-65].

Regarding claim 12, Langer teaches diverting all power reserves to the server that executes tasks of the highest priority [column 6, lines 13-16].

Regarding claim 13, Langer teaches incrementally shutting down lower-priority activities as power reserves dwindle [column 4, lines 57-65].

Regarding claim 14, Chrabaszcz discloses a method for server cluster power management, wherein fault tolerant uninterruptible power supply systems are used for preventing network down time during AC power failure. Chrabaszcz does not address the details of the method, but states that such systems are well known [column 2, lines 25-31]. Langer teaches a known method for computer power management, comprising the steps of:

grouping activities within a network of computers into predefined sets [priorities of loads, column 4, lines 61-63];

assigning a priority level to each set [column 4, lines 61-63];

identifying a first computer hosting a first set of lower-priority activities within the network [column 5, lines 35-38];

receiving a power interruption signal [column 5, lines 26-29]; and

diverting power reserves of the first computer to another computer in the network, in response to the power interruption signal [column 5, lines 47-51].

identifying a second server hosting an activity which is highest on the priority list [priority 3, column 4, lines 59-61];

diverting power reserves from all servers to the second server, in response to the power interruption signal [column 6, lines 13-16]; and

incrementally shutting down lower-priority activities on the second server as power reserves dwindle [column 5, lines 35-38 and column 6, lines 19-20].

It would have been obvious to one of ordinary skill in the art to use the Langer method as the method disclosed by Chrabaszcz as it is a known method capable of fulfilling Chrabaszcz's goal of achieving network fault tolerance in the event of AC power failure.

Regarding claim 15, Chrabaszcz discloses a method for server cluster power management, wherein fault tolerant uninterruptible power supply systems are used for preventing network down time during AC power failure. Chrabaszcz does not address the details of the method, but states that such systems are well known [column 2, lines 25-31]. Langer teaches a computer-usable medium embodying computer program code for commanding a computer to perform a known method of server cluster power management comprising the steps of:

grouping activities within a network of computers into predefined sets [priorities of loads, column 4, lines 61-63];

assigning a priority level to each set [column 4, lines 61-63];

identifying a first computer hosting a first set of lower-priority activities within the network [column 5, lines 35-38];

receiving a power interruption signal [column 5, lines 26-29]; and

diverting power reserves of the first computer to another computer in the network, in response to the power interruption signal [column 5, lines 47-51].

It would have been obvious to one of ordinary skill in the art to use the Langer method as the method disclosed by Chrabaszcz as it is a known method capable of fulfilling Chrabaszcz's goal of achieving network fault tolerance in the event of AC power failure.

Regarding claim 17, Langer teaches receiving the power interruption signal, in response to a power failure [column 5, lines 24-27].

Regarding claim 18, Langer and Chrabaszcz do not explicitly teach receiving a power interruption signal in response to a network administrator command. However, the Examiner takes official notice that it is well known in the art to receive a power interruption signal in response to a network administrator command. Accordingly, it would have been obvious to one of ordinary skill in the art to enable receiving a power interruption signal in response to a network administrator command in order to provide a manual indication of AC power failure in the event that AC power failure detection circuitry is malfunctioning.

Regarding claim 19, Langer and Chrabaszcz do not explicitly teach diverting the first set of lower-priority activities to another server in the cluster. However, since the server which performed the first set of lower-priority activities would be powered down, it would have been obvious to one of ordinary skill in the art to divert the first set of lower-priority activities to another server in the cluster if first set of lower-priority activities are still required to be functioning.

Regarding claim 20, Langer teaches diverting all power reserves to the server that executes tasks of the highest priority [column 6, lines 13-16].

Regarding claim 21, Langer teaches incrementally shutting down lower-priority activities as power reserves dwindle [column 4, lines 57-65].

Regarding claim 22, Chrabaszcz discloses a system for server cluster power management, wherein fault tolerant uninterruptible power supply systems are used for preventing network down time during AC power failure. Chrabaszcz does not address the details of the system, but states that such systems are well known [column 2, lines 25-31]. Langer teaches a known system performing a method for computer power management comprising a:

means for grouping activities within a network of computers into predefined sets [priorities of loads, column 4, lines 61-63];

means for assigning a priority level to each set [column 4, lines 61-63];

means for identifying a first computer hosting a first set of lower-priority activities within the network [column 5, lines 35-38];

means for receiving a power interruption signal [column 5, lines 26-29]; and

means for diverting power reserves of the first computer to another computer in the network, in response to the power interruption signal [column 5, lines 47-51].

It would have been obvious to one of ordinary skill in the art to use the Langer system as the system disclosed by Chrabaszcz as it is a known system capable of fulfilling Chrabaszcz's goal of achieving network fault tolerance in the event of AC power failure.

Claims 2, 5, 16, 23-25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chrabaszcz, US Patent no. 6,134,673 and Langer et al., US Patent no. 5,381,554 [Langer], in view of, Bishop et al., US Patent no. 6,377,782 [Bishop].

Regarding claim 2, Langer and Chrabaszcz, as described above, describe a method for server cluster power management in which power resources are diverted away from lower priority servers. Langer and Chrabaszcz do not explicitly teach that the priorities are determined based on data types of the activities performed by the servers. Bishop teaches using prioritization according to data types to achieve quality of service in a network [column 11, lines 18-21]. One would be motivated to prioritize the server activities according to data type in order to ensure that more intensive activities, such as those involving voice or video data, are performed over less intensive activities, such as those dealing with other types of data [Bishop, column 11, lines 10-20].

Regarding claim 5, Bishop teaches assigning priority level to achieve a desired quality of service of activities [column 11, lines 9-10].

Regarding claim 23, Chrabaszcz discloses a system for server cluster power management, wherein fault tolerant uninterruptible power supply systems are used for preventing network down time during AC power failure. Chrabaszcz does not address the details of the system, but states that such systems are well known [column 2, lines 25-31]. Langer teaches a known system for performing computer power management comprising:

computers performing a plurality of activity sets each having an associated priority level [column 4, lines 57-61 and column 4, line 67 – column 5, line 2];

power reserves coupled to the computers [Battery in Figure 5];

a switch matrix coupled to direct the power reserves between the computers [PDM contains logic controlled breakers, column 4, lines 57-59]; and

a power manager, coupled to the switch matrix, for commanding the switch matrix to divert power from computers hosting low priority activity sets to computers hosting high- priority activity sets, in response to a power interruption [Power Distribution Module in Figure 5 and column 4, lines 55-65].

It would have been obvious to one of ordinary skill in the art to use the Langer system as the system disclosed by Chrabaszcz as it is a known system capable of fulfilling Chrabaszcz's goal of achieving network fault tolerance in the event of AC power failure.

Langer and Chrabaszcz, as described above, describe a system for server cluster power management in which power resources are diverted away from lower priority servers. Langer and Chrabaszcz do not explicitly teach that the priorities are determined based on quality of service of the activities performed by the servers. Bishop teaches assigning priority level to achieve a desired quality of service of activities [column 11, lines 9-10]. One would be motivated to prioritize the server activities according to quality of service in order to ensure that more intensive activities, such as those involving voice or video data, are performed over less intensive activities, such as those dealing with other types of data [Bishop, column 11, lines 10-20].

Regarding claim 24, Langer teaches that the power reserves include a battery backup uninterrupted power supply [UPS with Battery in Figure 5].

Regarding claim 25, Langer teaches a line for coupling the servers to the power manager for transmitting quality of service priorities of the activity sets [element 45 in Figure 5].

Regarding claim 27, Langer teaches a power divert line for coupling the power reserves to the switch matrix for carrying the diverted power [elements 90 and 91 in Figure 5].

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chrabaszcz, US Patent no. 6,134,673 and Langer et al., US Patent no. 5,381,554 [Langer], in view of, Donaghue, Jr., US Patent no. 6,226,377 [Donaghue].

Langer and Chrabaszcz, as described above, describe a method for server cluster power management in which power resources are diverted away from lower priority servers. Langer and Chrabaszcz do not explicitly teach that the priorities are determined based on importance of the processes of the activities performed by the servers. Donaghue teaches establishing priority levels of activities based on the importance of completing the processes of each activity [column 3, lines 15-19]. One would be motivated to prioritize the activities based on the processes performed by each activity in order to ensure that clients relying on the server activities of greater importance are able to be serviced before clients relying on the server activities of lesser importance.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chrabaszcz, US Patent no. 6,134,673 and Langer et al., US Patent no. 5,381,554 [Langer], in view of, Ebata et al., US Patent no. 6,708,209 [Ebata].

Langer and Chrabaszcz, as described above, describe a method for server cluster power management in which power resources are diverted away from lower priority servers. Langer and Chrabaszcz do not explicitly teach defining activity sets based on quality of service according to a Common Open Policy Service Protocol. However, Ebata states that resource allocation using a Common Open Policy Service Protocol is well known in the art [column 16, lines 15-22]. One would be motivated to use a Common Open Policy Service Protocol to define activity sets in order to allow servers to exchange network policies [Ebata, column 16, lines 18-22].

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chrabaszcz, US Patent no. 6,134,673, Langer et al., US Patent no. 5,381,554 [Langer] and Bishop et al., US Patent no. 6,377,782 [Bishop], in view of, Ebata et al., US Patent no. 6,708,209 [Ebata].

Langer, Chrabaszcz and Bishop, as described above, describe a system for server cluster power management in which power resources are diverted away from lower priority servers. Langer and Chrabaszcz do not explicitly teach defining activity sets based on quality of service according to a Common Open Policy Service Protocol. However, Ebata states that resource allocation using a Common Open Policy Service Protocol is well known in the art [column 16, lines 15-22]. One would be motivated to use a Common Open Policy Service Protocol to define activity sets in order to allow servers to exchange network policies [Ebata, column 16, lines 18-22].

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Townsley, US Patent no. 5,532,524, teaches supplying power to the most critical components when power supply is limited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul B Yanchus whose telephone number is (703) 305-8022. The examiner can normally be reached on Mon-Thurs 8:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on (703) 308-1159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Yanchus
September 22, 2004

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